

FIG. 1

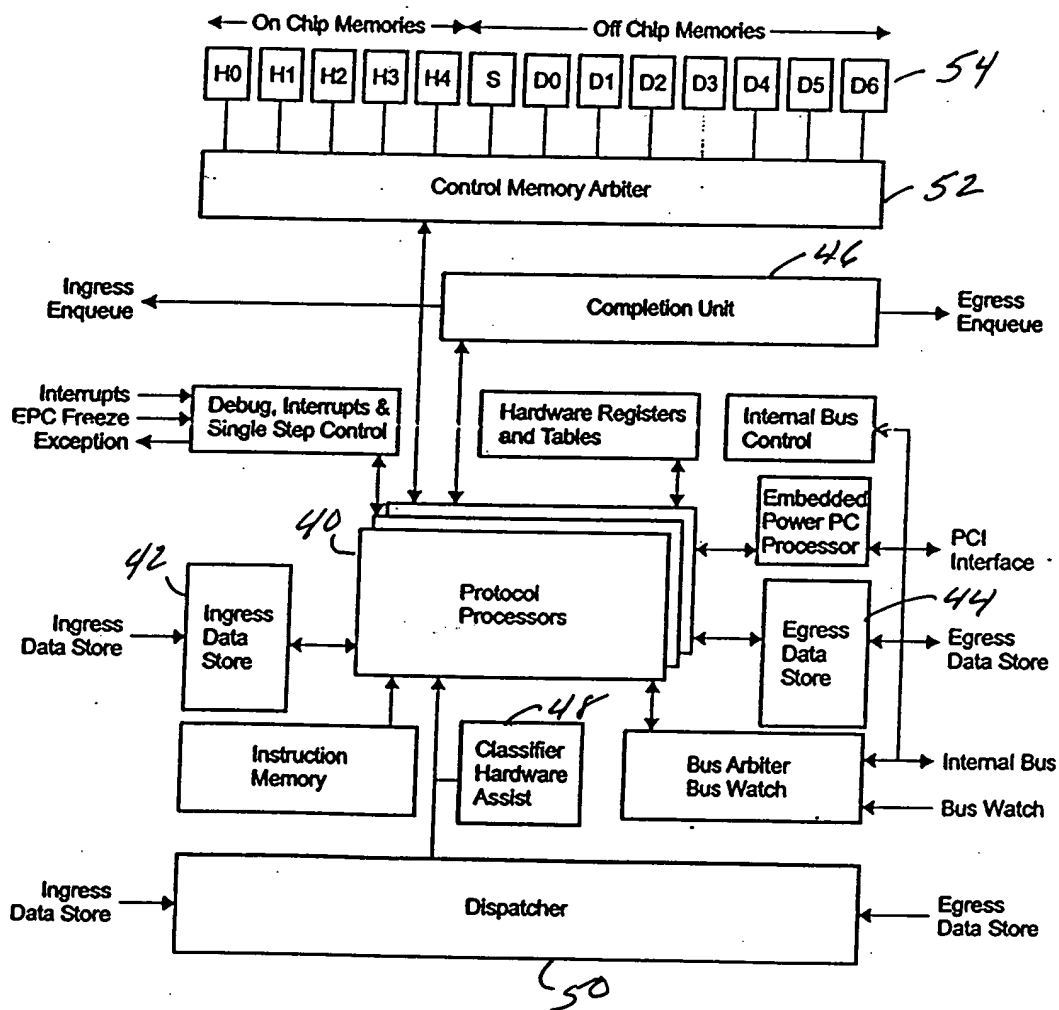


FIG. 2

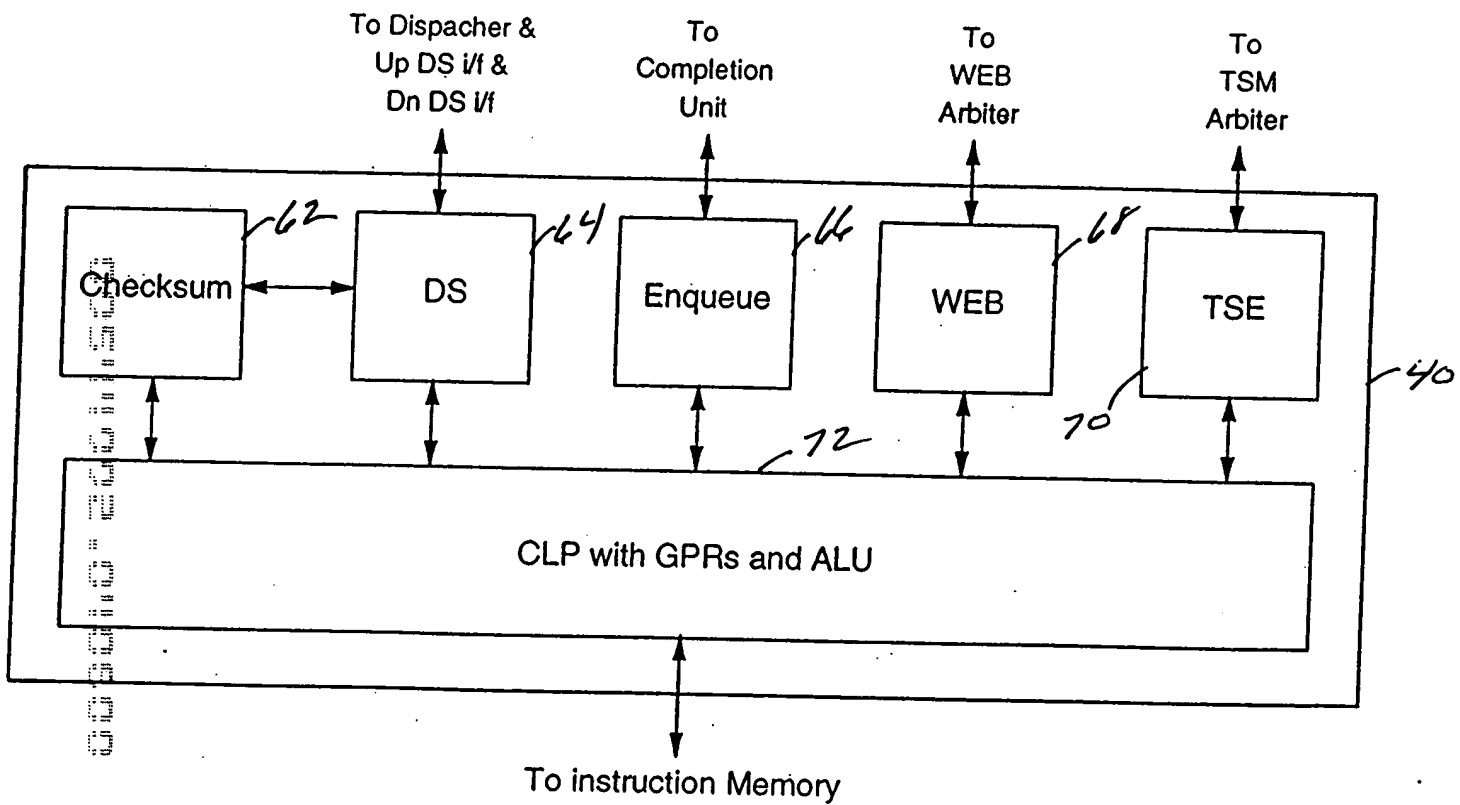


FIG. 3

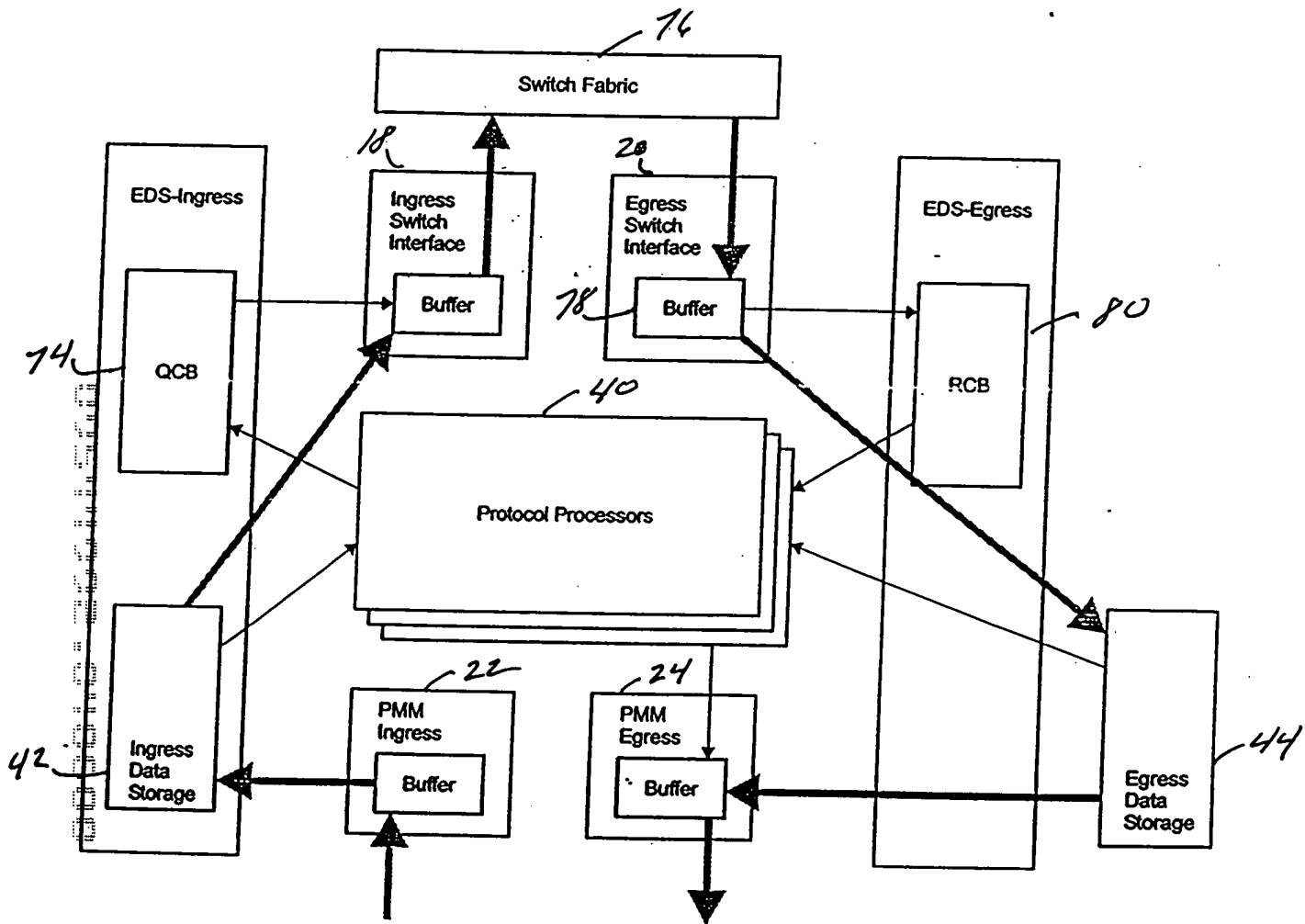


FIG. 4

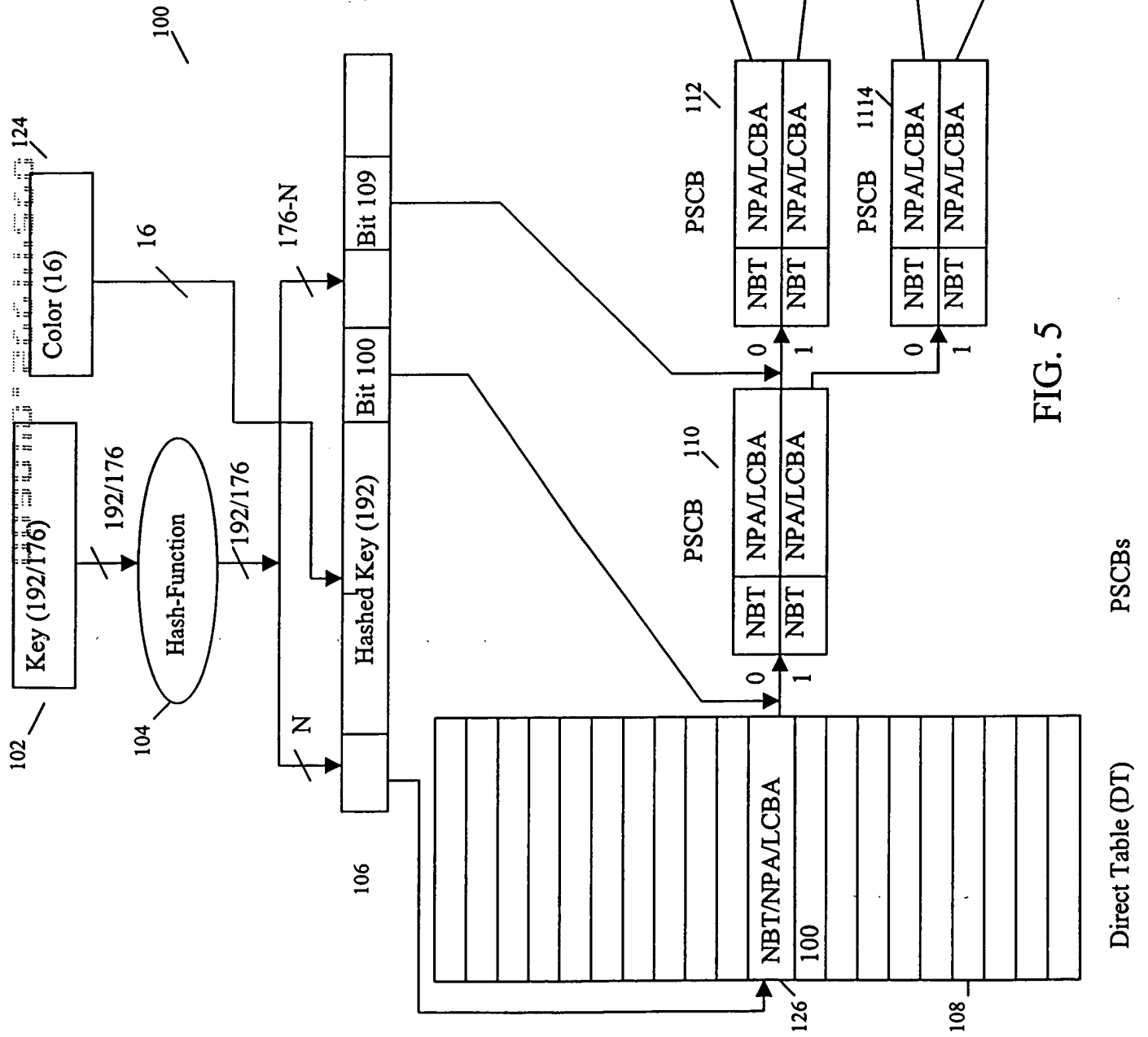
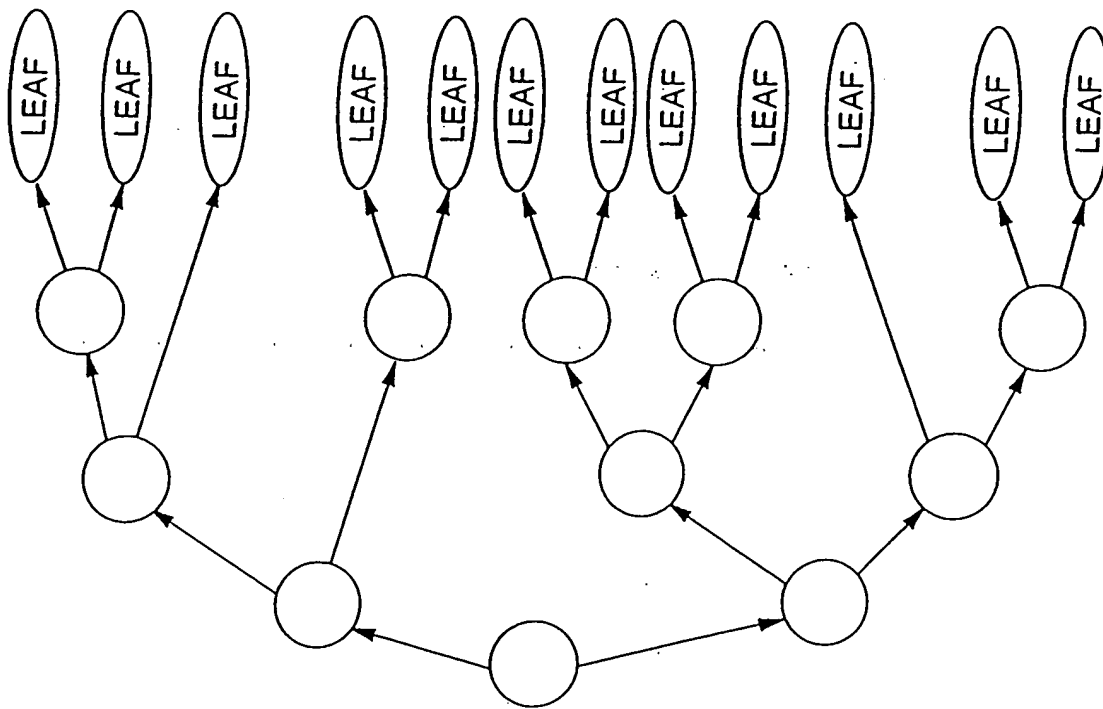
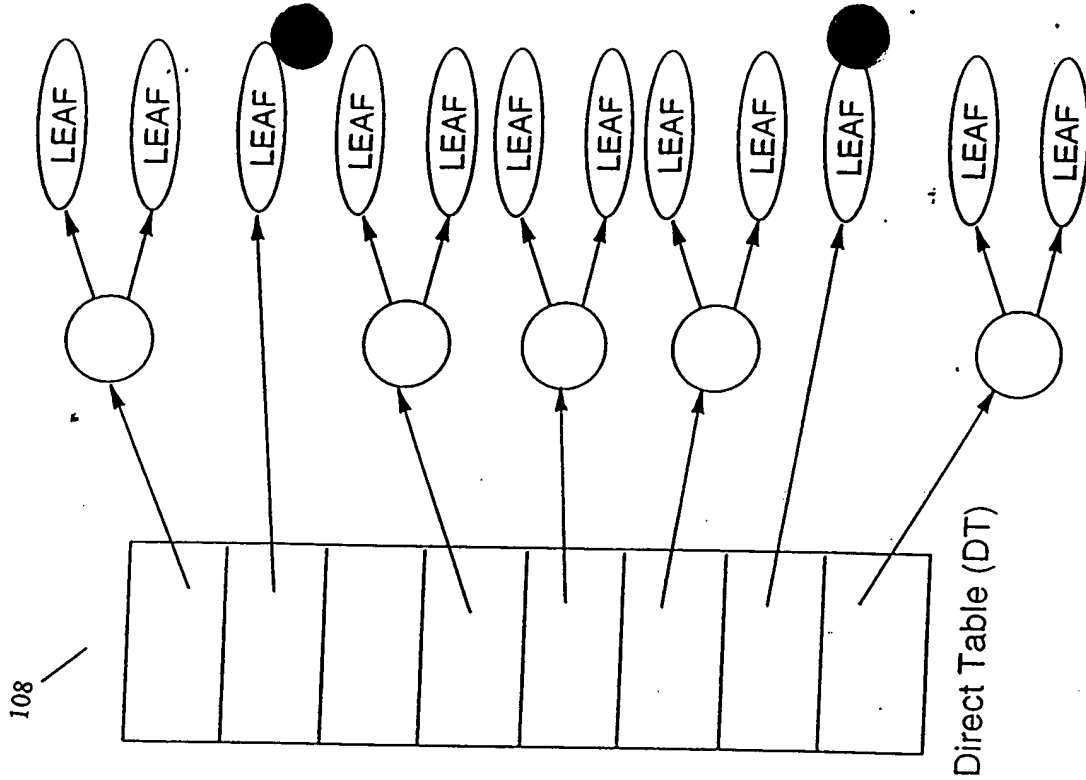


FIG. 5

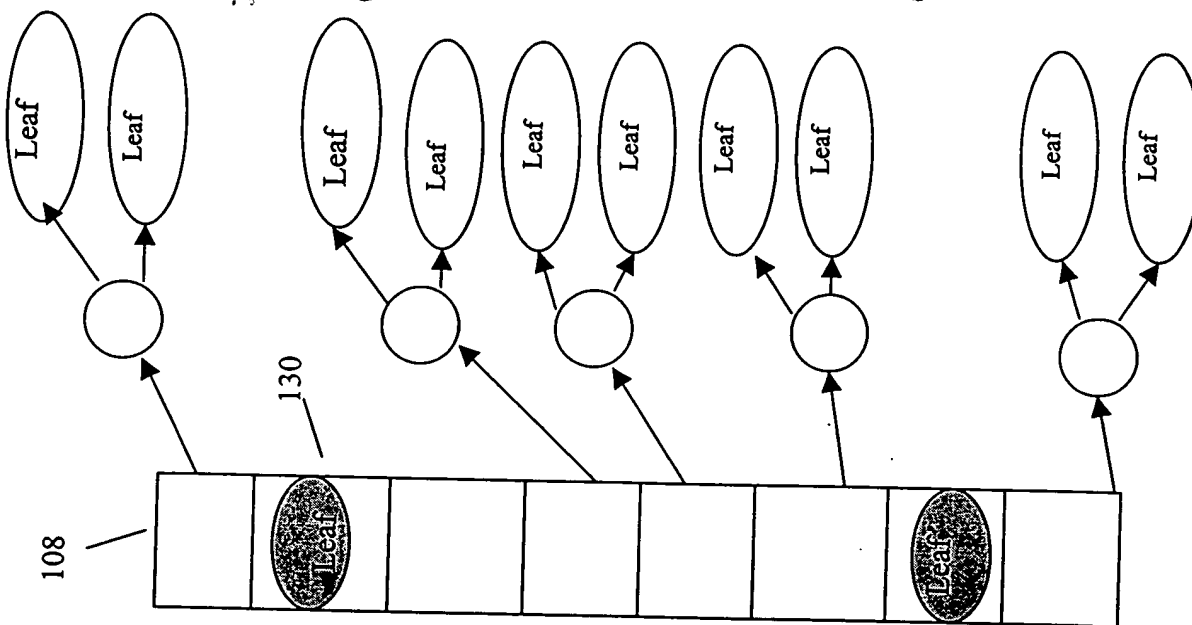


Datastructure without using a Direct Table

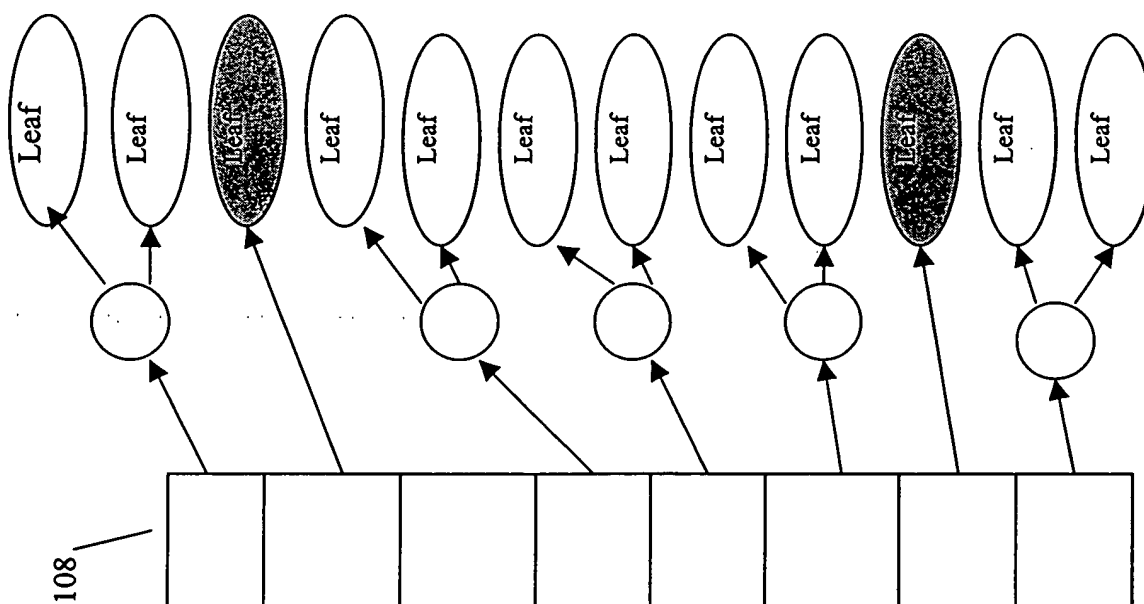


Datastructure with using a Direct Table

FIG. 6



Datastructure with Direct Leaves



Datastructure without Direct Leaves

FIG. 7

Format	Conditions	Valid in DTEntry?	Valid in PSCB?	Format (2 bits)	NPA (26 bits)	NBT (8 bits)	LCBA (26 bits)	Spare (2 bits)
Empty DTEntry	No leaves	Yes	Yes	00	0	0	0	0
LCBA not valid	DTEntry contains pointer to PSCB	Yes	Yes	00	NPA	NBT	0	0
LCBA valid; NPA/NBT not valid	Single leaf associated with DTEntry; LCBA contains pointer into leaf; No pointer to next PSCB	Yes	Yes	01	0	0	LCBA	0
LCBA valid; NPA/NBT valid	Single leaf associated with DTEntry; LCBA contains pointer to leaf; Pointer to next PSCB	Yes	Yes	01	NPA	NBT	LCBA	0

FIG. 8

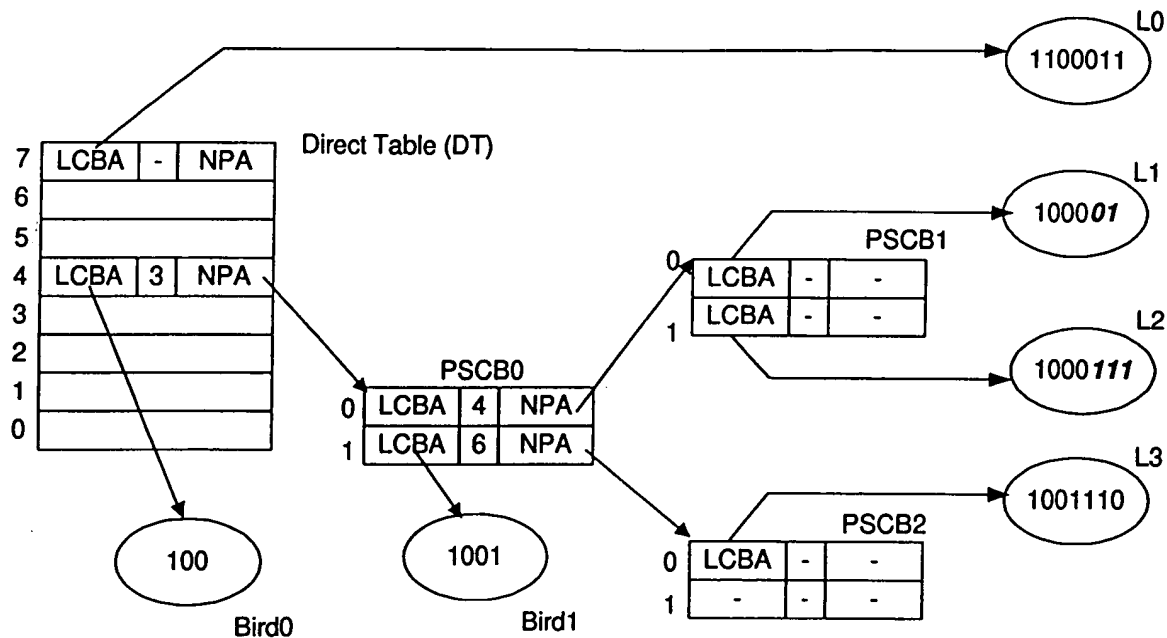


FIG. 9

Input Key	Input Key Length	Pattern stored in the leaf	Leaf-pattern Length	DISP
10011	5	1011010	7	2
10011	5	1001101	7	5
1011010	7	10011	5	2

FIG. 10

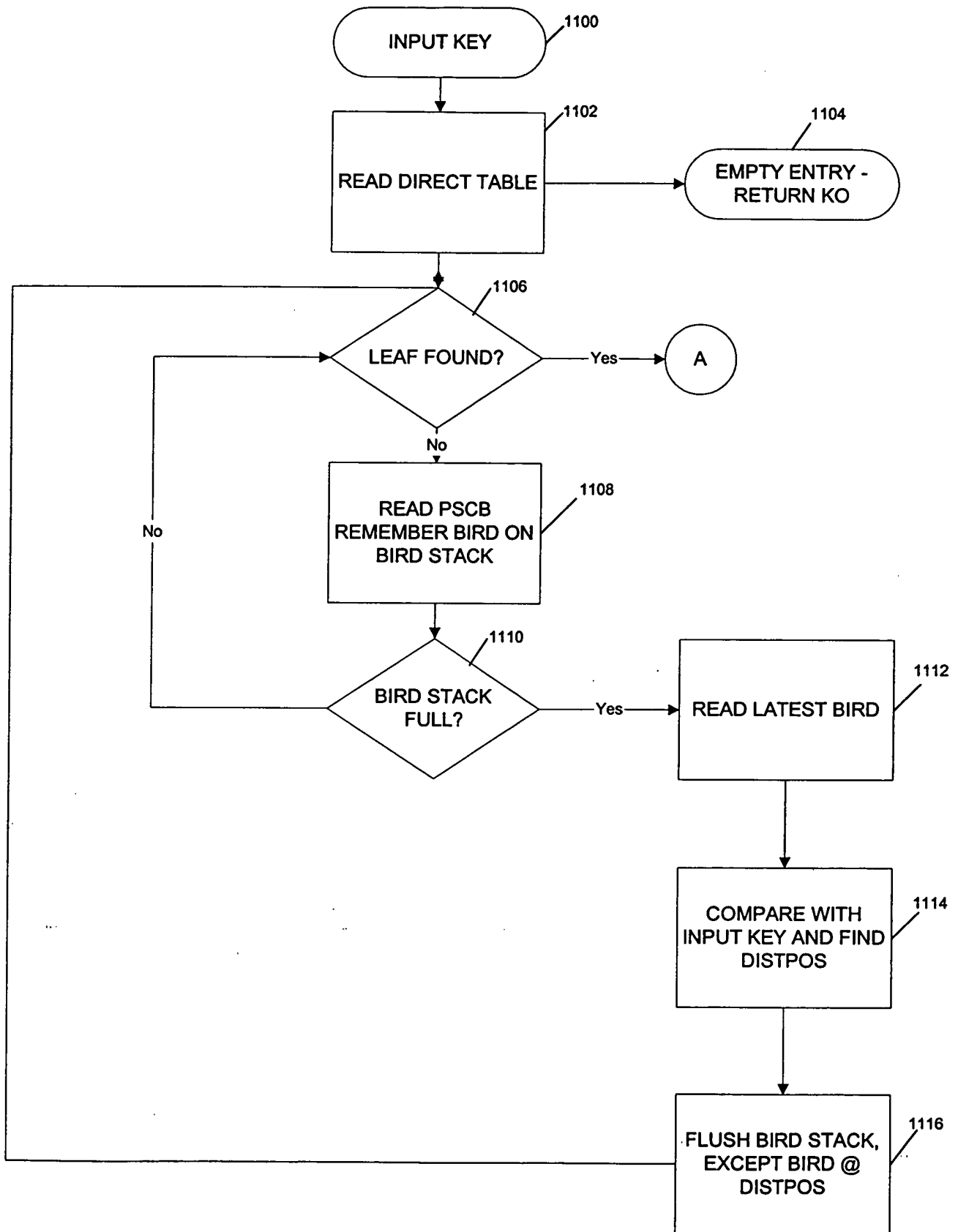
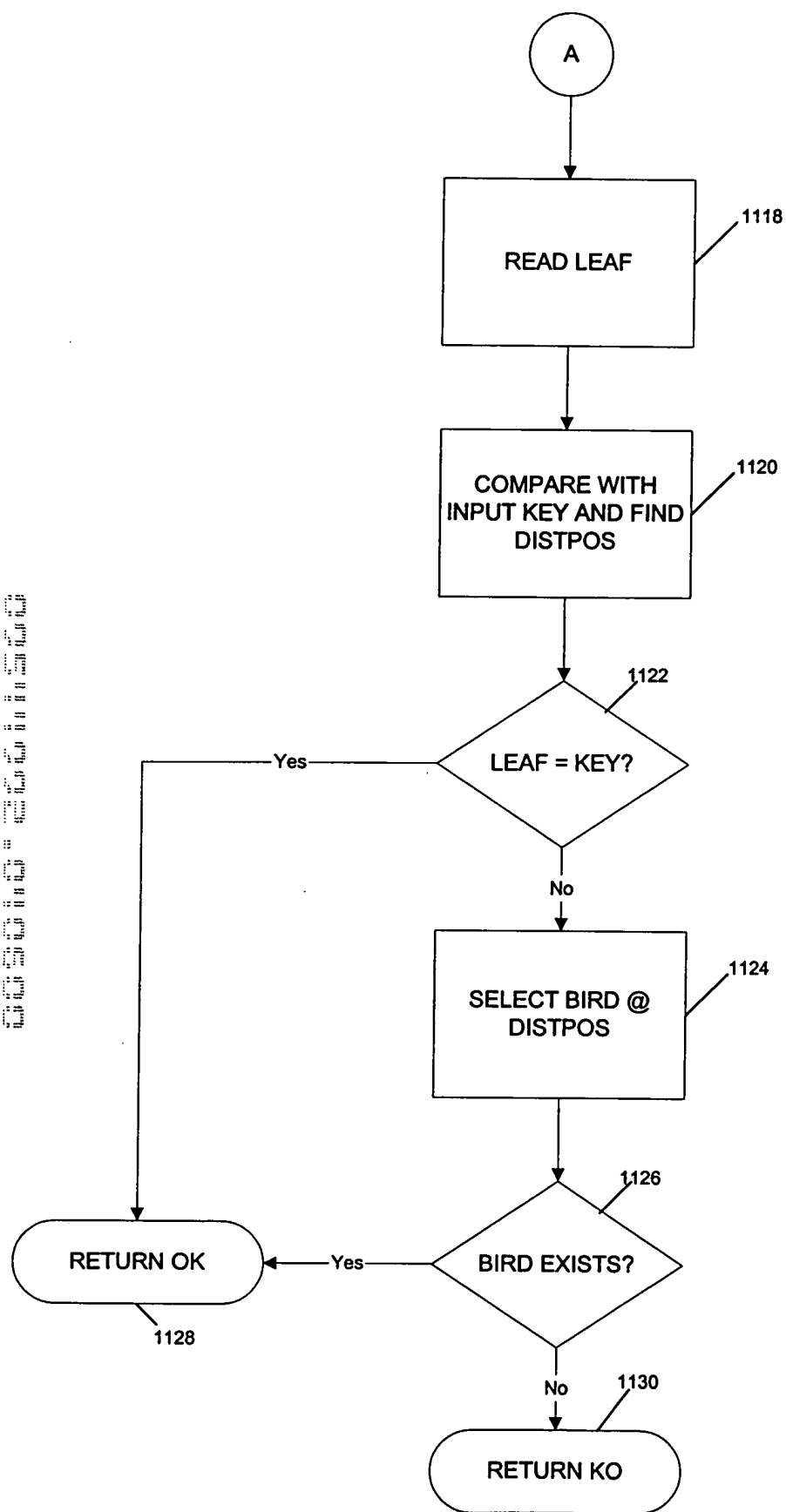


FIG. 11A

FIG. 11B



LUDefTable Tree Definition

Field	Size	Bits
CacheEntry	1	0
Tree_Type	2	2..1
hash-type	4	6..3
color_en	1	7
PIP2_max_size	5	12 .. 8
NPARope_en	1	13
NPASMT_en	1	14
ComplIndex_en	1	15
PSCB_fq_index	6	21 .. 16
PSCB_Height	1	22
Mask_Vector_En	1	23
ComplIndex	8	31..24
DT_base_addr	26	57 .. 32
DT_size	4	61 .. 58
DT_interleaf	2	63 .. 62
Leaf_fq_index	6	69 .. 64
Leaf_Width	2	71 .. 70
Leaf_Height	3	74 .. 72
DirectLeafEn	1	75

FIG. 12

Field	Size	Address in TSM where PSCB is located
NPA0	26	Next PSCB address: pointer to next PSCB in the tree for 0-part of PSCB
NBT0	8	Next bit to test for 0-part of PSCB
LCBA0	26	Leaf control block address: pointer to leaf for 0-part of PSCB
NPA1	26	Next PSCB address: pointer to next PSCB in the tree for 1-part of PSCB
NBT1	8	Next bit to test for 1-part of PSCB
LCBA1	26	Leaf control block address: pointer to leaf for 1-part of PSCB
Index	8	Index of this PSCB (physically stored in the previous PSCB)
PatBit	1	The value of HashedKey[Index], based on the value of the Index field in the PSCB register

FIG. 13

Field Name	Length	Description
NLARope	4 bytes	Leaf Chaining Pointer, aging information and direct leaf information
Prefix_Len	1 byte	The length of the pattern <i>minus 1</i> (in bits) for LPM
pattern	2 - 18 bytes	Pattern to be compared with the HashedKey
UserData	Variable	The contents of this field is under complete picocode control; the UserData field can include one or more counters

FIG. 14

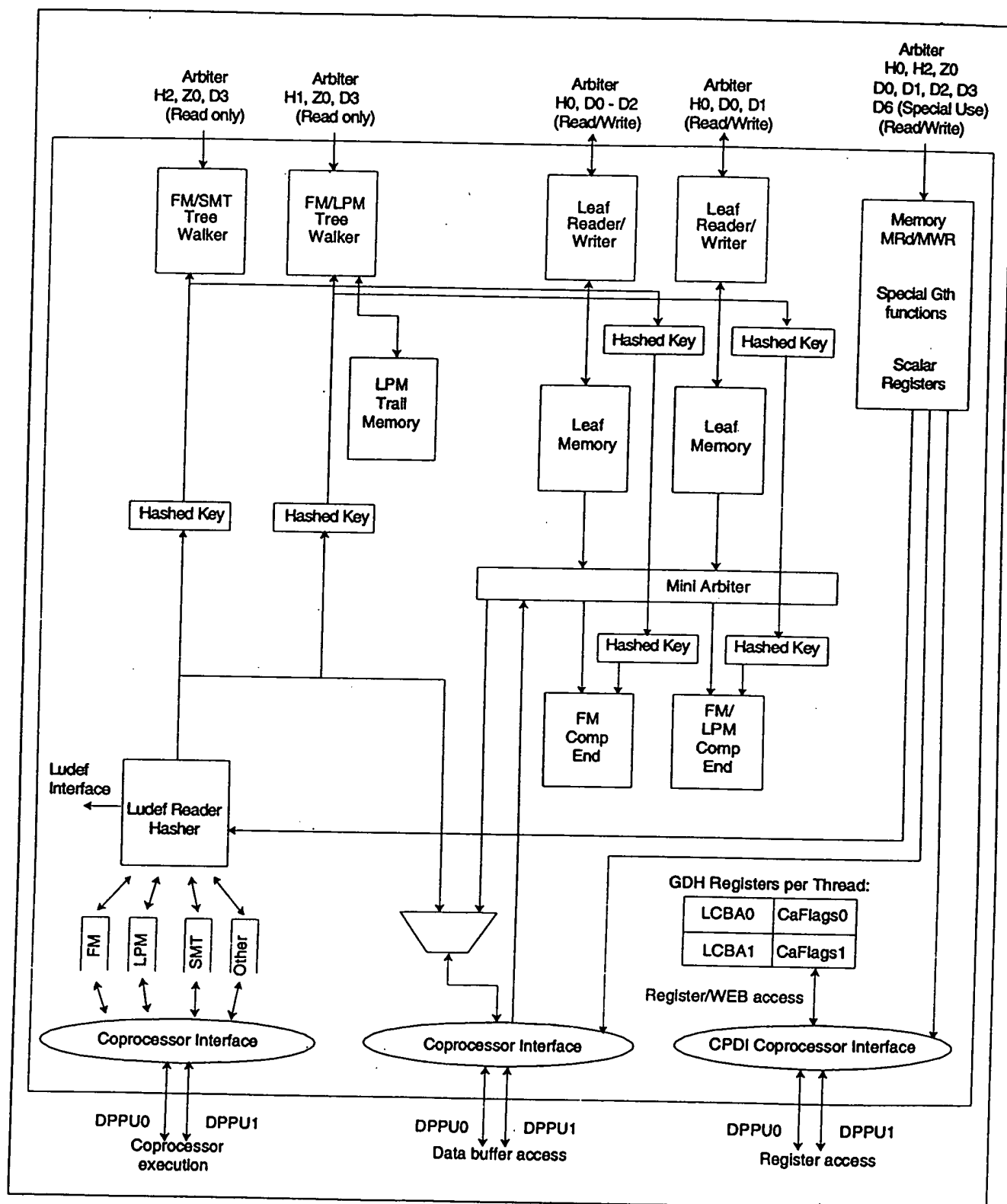


FIG. 15